UH-60A/L PPC (Version 3.2.5) Known Issues as of 5 Jan 07

Issue 1: In all UH-60A/L applications, calculations of MAX ANGLE (maximum angle of bank) in the PPC CRUISE section are incorrect. The only displayed value is either 60 (deg) or N/C (No Calculation) for input aircraft gross weight, pressure altitude, free air temperature and airspeed.

To determine an accurate maximum angle of bank, utilize the CRUISE CALCULATOR and perform the following steps:

Step 1: Enter the PPC CRUISE value for CRUISE - IAS in the CRUISE CALCULATOR SPEED input field and ensure KIAS is the selected SPEED type.

Step 2: Enter the PPC CRUISE values for PA, FAT and ETFs in their respective CRUISE CALCULATOR input fields and the PPC DEPARTURE value for AIRCRAFT GWT as the CRUISE CALCULATOR GWT.

Step 3: Enter the PPC CRUISE ADDITIONAL INPUTS in their respective CRUISE CALCULATOR ADDITIONAL INPUTS input fields.

Step 4: Enter the PPC DEPARTURE value for AIRCRAFT DRAG as the CRUISE CALCULATOR ADDITIONAL INPUTS Flat Plate Drag Change input.

Step 5: Calculate.

Step 6: Record the calculated Max Bank Angle as the PPC CRUISE MAX ANGLE after the PPC is printed.

NOTE

In all UH-60A/L applications, certain combinations of low PA and low FAT will result in a failed calculation of the CRUISE CALCULATOR Max Bank Angle. The failed calculation is indicated by N/C (No Calculation) in the Max Bank Angle output field. In this event, refer to TM 1-1520-237-10 and reference the AIRSPEED FOR ONSET OF BLADE STALL chart to determine maximum bank angle for the known conditions. Record the value derived from the AIRSPEED FOR ONSET OF BLADE STALL chart as the PPC CRUISE MAX ANGLE after the PPC is printed.

Issue 2. In all UH-60A/L applications, the CRUISE CALCULATOR Vne (KIAS) value indicates the maximum airspeed for the aircraft structural limit without regard to the compressibility limits (mach limits) as depicted on the Airspeed Operating Limits charts in the -10 Operator's Manual.

Disregard the CRUISE CALCULATOR Vne (KIAS) value and reference the PPC CRUISE section Vne-IAS output field for known conditions of pressure altitude, free air temperature and aircraft gross weight.

Issue 3. In all UH-60A/L applications, the Hover Calculator APU Fuel Flow is incorrect and represents one half of the actual fuel flow for the input PA and FAT.

If APU fuel flow data is required, double the displayed value.

Issue 4. In all UH-60A/L applications, at higher density altitudes, the PPC CRUISE section calculations of OPTIMUM IAS AT MAX ALLOWABLE GWT will result in N/C (No Calculation). Right clicking the OPTIMUM IAS AT MAX ALLOWABLE GWT output field will display the following Alert:

Calc - 36 Cruise Capabilities
Flight condition not authorized by Airworthiness Release
Indicated Airspeed (#) > Vne (#)

The Alert message Indicated Airspeed is the input value for DUAL ENGINE CRUISE SPEED - IAS / TAS and the Vne value is the Vne for the displayed DUAL ENGINE MAX ALLOWABLE GWT.

To determine the DUAL ENGINE OPTIMUM IAS AT MAX ALLOWABLE GWT (in the event of an N/C) perform the following steps:

Step 1: Enter a value for DUAL ENGINE CRUISE SPEED - IAS / TAS that is less than the Vne value stated in the Alert message.

Step 2: Calculate.

Step 3: Note the DUAL ENGINE OPTIMUM IAS AT MAX ALLOWABLE GWT and record this value after the PPC is printed.

Step 4: Renter the original planned DUAL ENGINE CRUISE SPEED - IAS / TAS to complete the remainder of the PPC.

Issue 5: In all UH-60A/L applications, based on PA and FAT inputs, calculations of PPC CRUISE DUAL ENGINE MAX TORQUE AVAILABLE and CONT TORQUE AVAIL may display N/C (No Calculation). The Alert message for these outputs will state that the Indicated Airspeed (the input CRUISE SPEED) is greater than Vne. The Vne cited in these Alert messages will be less than the

displayed value for Vne-IAS. Additionally, PPC CRUISE DUAL ENGINE CRITICAL TORQUE will display -5000.

To determine the dual engine maximum and continuous torque available and the critical torque value, utilize the CRUISE CALCULATOR and perform the following steps:

Step 1: Enter the PPC CRUISE value for CRUISE - IAS in the CRUISE CALCULATOR SPEED input field and ensure KIAS is the selected SPEED type.

Step 2: Enter the PPC CRUISE values for PA, FAT and ETFs in their respective CRUISE CALCULATOR input fields and the PPC DEPARTURE value for AIRCRAFT GWT as the CRUISE CALCULATOR GWT.

Step 3: Enter the PPC CRUISE ADDITIONAL INPUTS in their respective CRUISE CALCULATOR ADDITIONAL INPUTS input fields and select MAX (10-Minute) - Dual (T701C) or IRP (30 min) - Dual (T700) as the Operating Limit (Dual).

Step 4: Enter the PPC DEPARTURE value for AIRCRAFT DRAG as the CRUISE CALCULATOR ADDITIONAL INPUTS Flat Plate Drag Change input.

Step 5: Calculate.

Step 6: Note the value for DUAL-ENGINE Torque Available and record the value as the PPC CRUISE DUAL ENGINE MAX TORQUE AVAILABLE after the PPC is printed.

Step 7: Note the value for SINGLE-ENGINE Torque Available of the low ETF engine and record the value as the PPC CRUISE DUAL ENGINE CRITICAL TORQUE after the PPC is printed.

Step 8: In the CRUISE CALCULATOR ADDITIONAL INPUTS select MCP - Dual as the Operating Limit (Dual).

Step 9: Calculate.

Step 10: Note the value for DUAL-ENGINE Torque Available and record the value as the PPC CRUISE DUAL ENGINE CONT TORQUE AVAILABLE after the PPC is printed.

Issue 6. All UH-60A/L applications allow a .85 input for both ETFs for a resultant ATF of .85. IAW TM 1-1520-237-10, the ETF is allowed to range from .85 to 1.0 and the ATF is allowed to range from 0.9 to 1.0.

Issue 7. Alert Messages

In all UH-60A/L applications, various Alert messages are generated that may appear incorrect for the user input conditions.

The following is a list of possible Alert messages and the appropriate responses:

7.1. Alert messages are generated in the PPC CRUISE section for DUAL ENGINE CRUISE SPEED - IAS / TAS inputs when the input airspeed exceeds single engine performance capabilities.

These Alert messages are advisory only. Reference the SINGLE ENGINE column of the PPC CRUISE section for single engine performance capabilities.

7.2. Based on input airspeed, Alert messages in the PPC CRUISE section for both DUAL ENGINE and SINGLE ENGINE CRUISE SPEED - IAS / TAS are possible.

If input DUAL ENGINE and/or SINGLE ENGINE CRUISE SPEED - IAS are within the ranges of the DUAL ENGINE and/or SINGLE ENGINE MIN / MAX IAS, disregard the Alert messages.

7.3. An Alert message in the PPC CRUISE section for MAX ENDURANCE - IAS is possible.

If MAX ENDURANCE - IAS is between the values for DUAL ENGINE MIN / MAX IAS, disregard Alert messages for MAX ENDURANCE - IAS.

Issue 8. The UH-60A/L PPC Software User's Manual (SUM) contains the following errors:

8.1. Formatting errors consisting of incorrectly justified text and spacing.

8.2. The message "Error! Not a valid bookmark self-reference" and "Error! Reference source not found" is found throughout the manual.

8.3. On page 12, in section 1.5 Referenced Documents, the Aircrew Training Manual is incorrectly referred to as TC 1-238.

8.4. On page 33, Table 2-5, the maximum CRUISE (SPEED) IAS - DUAL and SINGLE ENGINE input for ESSS aircraft is incorrectly stated as 193 knots. For ESSS aircraft, the maximum value for these inputs is 170 knots.

8.5. On page 73, 3.2.2.1 PPC DEPARTURE REMARKS Section Outputs, the first NOTE after Item 28c is incorrect and should read as follows:

NOTE

MAX ALLOWABLE GWT OGE was determined in item 23a using maximum PA (Item 1a) and FAT (Item 2a). When the departure PA (Item 1b) and FAT (Item 2b) are less than the maximum PA (Item 1a) and FAT (Item 2a), the torque required to hover at a given gross weight is less. During the hover power check, exceeding the GO/NO-GO TORQUE OGE values calculated in items 28a through 28c prior to the specified wheel height, indicates the aircraft is heavier than the MAXIMUM ALLOWABLE GWT OGE (Item 23a) and will be incapable of OGE operations when maximum PA and FAT conditions are encountered (at the current GWT).

8.6. On page 81, 3.3.2 PPC CRUISE Outputs, Item 18 is incorrectly identified as Vne KTAS. Item 18 represents the calculated never exceed airspeed in knots indicated airspeed and should have been identified as Vne-IAS.

8.7. On page 88, 3.3.3.1 OPTIMUM IAS AT MAX ALLOWABLE GWT (DUAL and SINGLE ENGINE), the procedure given to determine the optimum indicated airspeed at maximum allowable gross weight, for both dual and single engine, is incorrect. The following procedure is required and must be used in lieu of the procedure depicted in the SUM:

Step 1: Enter the PPC CRUISE values for PA, FAT, and ETFs in their respective CRUISE CALCULATOR input fields and the DUAL ENGINE CRUISE - IAS as the CRUISE CALCULATOR Speed KIAS.

Step 2: Enter the PPC CRUISE ADDITIONAL INPUTS values in their respective input fields in the CRUISE CALCULATOR ADDITIONAL INPUTS.

Step 3: Enter the PPC DEPARTURE value for AIRCRAFT DRAG as the CRUISE CALCULATOR ADDITIONAL INPUTS Flat Plate Drag Change input.

Step 4: For external lift missions, enter 23500 (pounds) as the GWT. For an ESSS helicopter on an approved ferry mission, enter 24500 (pounds) as the GWT.

Step 5: Calculate.

Step 6: As applicable, record the calculated Max Endurance Airspeed (KIAS) DUAL-ENGINE as the OPTIMUM IAS AT MAX ALLOWABLE GWT (DUAL ENGINE) or the calculated Max Endurance Airspeed (KIAS) SINGLE-ENGINE (of the low ETF engine) as the OPTIMUM IAS AT MAX ALLOWABLE GWT (SINGLE ENGINE) after the PPC is printed.

8.8. On page 73, 3.6.1.2 HOVER CALCULATOR ADDITIONAL INPUTS, Item 13: Structural Weight Limit (UH-60L only) is incorrect and should read as follows:

Item 13: Structural Weight Limit (UH-60L only)
For the UH-60L (CLEAN CONFIGURATION or ESSS), with a cargo hook load above 8,000 pounds or for a UH-60L ESSS aircraft on a ferry mission above 22,000 pounds GWT (with the required airworthiness release), left click the Structural Weight Limit input field to open the drop-down combo box and select "Ignore Limit".

8.9. On page 121, 3.7.1.2 CRUISE CALCULATOR ADDITIONAL INPUTS, the NOTE in Item 12: Temperature Lapse Rate is incorrect and should read as follows:

NOTE

With the Temperature Lapse Rate at the default setting of "Lapse Temperature (-2 deg C per 1000 ft)", the calculations for Absolute Ceiling (PA/FAT), item 35 a, b and c, and Service Ceiling (PA/FAT), item 36 a, b and c, are performed with the standard temperature lapse rate applied with the input PA (Item 2) and FAT (Item 3) as initial conditions. With the Temperature Lapse Rate set to "Constant Temperature", these calculations are performed at the input FAT (Item 3).

8.10. On page 125, 3.7.2 CRUISE CALCULATOR OUTPUTS, the NOTE in Item 35a, b and c: Absolute Ceiling (PA/FAT) and the NOTE in Item 36a, b and c: Service Ceiling (PA/FAT) identifies the PA as Item 1 and FAT as Item 2. This is incorrect as PA is Item 2 and FAT is Item 3.